

WHAT IS CLAIMED IS:

1. A bidirectional signal transmission circuit comprising:

a buffer element for reducing the impedance of a signal line;

a signal line disposed between input terminals in both ends of the bidirectional signal transmission circuit; and

a signal line disposed between output terminals in these ends, the signal lines being parallel to each other, a signal supplied from the exterior of the bidirectional signal transmission circuit being sequentially transmitted from one end to the other end of the bidirectional signal transmission circuit and being then output from the other end in order to confirm the sequential transmission at the exterior, the transmitting direction being changeable between these ends in response to a switching signal supplied from the exterior,

wherein the buffer element for reducing the impedance of the signal line is disposed in at least one end of the signal line arranged between the output terminals.

2. The circuit according to Claim 1, further comprising:

a gate element connected to the output terminals in

both the ends of the bidirectional signal transmission circuit, the gate element passing a signal generated from the output terminal on one end selected in accordance with the transmitting direction; and

potential fixing means for fixing the potential of the output terminal in the other end which is not selected in accordance with the transmitting direction so that the potential thereof is not floating.

3. The circuit according to Claim 2, wherein the potential fixing means includes either a pull-up element for pulling up the potential of an output of the buffer element, disposed close to the output terminal which is not selected, to the potential of a power supply in response to the switching signal, or a pull-down element for pulling down the output potential of the buffer element to a ground potential in response to the switching signal.

4. The circuit according to Claim 1, further comprising:

high-impedance state producing means for setting an output of the buffer element to high impedance in response to the switching signal when signal line segments extending from the respective output terminals in both the ends of bidirectional signal transmission circuit are connected into

one signal line and the output terminal close to the buffer element is not selected in accordance with the switching signal.